

Appl. No.: 10/709,050
Amdt. Dated: 12/22/2005
Reply to Office action of: 10/19/2005

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1 – 5 (canceled)

Claim 6 (currently amended) A system for preventing electric arcs in connectors feeding power loads, which connectors (11), interspersed in an electric power supply and distribution network, are of the type comprising first and second releasable socket coupling electro-insulating connection supports (1, 2) bearing at least one pair of terminals (3, 4), said at least one pair of terminals (3, 4) characterized as forming a plurality of feed channels (5, 6) of several respective power loads (10a, 10b, ...), and in that each connector (11) integrates two electro conductive detection contact terminals or parts (13, 14), susceptible to forming said auxiliary circuit (14, 15) in said first position A, or in intermediate position B of a decoupling run between the electro insulating connection supports (1, 2) and before said terminals (3, 4) reach said second position C, and further characterized as having a first one of the electro insulating connection supports (1), or male body, carries on its side wall an electro conductive part (30), whereas in the cavity of the second connection support (2), or female body, two branches (31a, 31b) of an electric circuit are arranged, which end in two spaced conductive strips (32a, 32b) which open into a cavity of the side wall of support (2), such that in the decoupling run, the part (30) is arranged on said cavity, connecting said strips (32a, 32b), closing the circuit formed by the branches (31a, 31b) and through which the sending of the warning signal is generated towards the disconnection device (7) of feed to the conductive channels formed by said power terminals (3, 4) before reaching physical separation thereof which, in a first definitive coupling position A, are electrically coupled together, forming an electric power through channel (5, 6) towards a corresponding power load (10), and which terminals (3, 4) in a second decoupling position C of the electro-insulating connection supports (1, 2) are physically separated, the voltage level of said network being such that said separation can generate an electric arc, characterized in

Appl. No.: 10/709,050
Amdt. Dated: 12/22/2005
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that each one of said connections (11) comprises at least a pair of additional electro_conductive elements (12, 13) for detection purposes which, in said first position A, or in intermediate position B of a decoupling run between the electro_insulating connection supports (1, 2) and before said terminals (3, 4) reach said second position C, form an auxiliary electric circuit (14, 15) through which it is susceptible to generating an electric warning signal in correspondence with a displacement of the supports (1, 2) towards a decoupling situation and upon overcoming a preset threshold in the decoupling run, and in that at least one disconnection protection device (7) has been provided, connected to said auxiliary circuit (14, 15), prepared so that upon receiving said electric warning signal, it immediately interrupts the electric fed to said channel (5, 6) formed by said two terminals (3, 4) before the latter reach said second position C of physical separation between them.

Claims 7 – 8 (canceled)

Claim 9 (currently amended) A system for preventing electric arcs in connectors feeding power loads, which connectors (11), interspersed in an electric power supply and distribution network, are of the type comprising first and second releasable socket coupling electro_insulating connection supports (1, 2) bearing at least one pair of terminals (3, 4), said at least one pair of terminals (3, 4) characterized as forming a plurality of feed channels (5, 6) of several respective power loads (10a, 10b, ...) wherein between each load (10a, 10b) and the electronic unit (20), one or more connectors (11b-11e) are interspersed, each one of said connectors (11b-11e) including one of said pairs of detection terminals (12, 13), by which the number of terminals present in each connector (11b-11e) increases the closer the connector is to the electronic unit (20), and in that each connector (11) integrates two electro conductive detection contact terminals or parts (13, 14), susceptible to forming said auxiliary circuit (14, 15) in said first position A, or in intermediate position B of a decoupling run between the electro insulating connection supports (1, 2) and before said terminals (3, 4) reach said second position C, and further characterized as having which, in a first definitive coupling position A, are electrically coupled together, forming an electric power through channel (5, 6) towards a corresponding power load (10), and which terminals (3, 4) in a second decoupling position C of the electro_insulating connection supports (1, 2) are physically separated,

Appl. No.: 10/709,050
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Reply to Office action of: 10/19/2005

the voltage level of said network being such that said separation can generate an electric arc, characterized in that each one of said connections (11) comprises at least a pair of additional electro_conductive elements (12, 13) for detection purposes which, in said first position A, or in intermediate position B of a decoupling run between the electro_insulating connection supports (1, 2) and before said terminals (3, 4) reach said second position C, form an auxiliary electric circuit (14, 15) through which it is susceptible to generating an electric warning signal in correspondence with a displacement of the supports (1, 2) towards a decoupling situation and upon overcoming a preset threshold in the decoupling run, and in that at least one disconnection protection device (7) has been provided characterized in that said disconnection protection device (7), of which there is at least one, is integrated in an electronic unit (20) or distribution box which controls a plurality of connectors (11b, 11c, 11d, 11e) and which unit (20) comprises a circuit (16) for identification of the connector or connectors (11) in transition towards decoupling position B, which circuit (16) is connected to a microprocessor (8) controlling said disconnection protection device (7) linked to the electric power feed source and from which several corresponding circuits or channels are formed which pass through a distribution connector (11e) and from which they branch off towards the corresponding connectors (11) and their electrically coupled terminals (3, 4), and further characterized in that through said distribution connector (11e), a line of the corresponding auxiliary circuit (14, 15) of each connector (11) is received, which lines are fed to said connector identification circuit (16) which, according to which is the connector (11) from which the warning signal is received, acts on the microprocessor (8) by sending a preferential interruption which generates a corresponding order to the disconnection protection device (7) to disconnect the feed towards the power channel or lines passing through the corresponding connector (11); connected to said auxiliary circuit (14, 15), prepared so that upon receiving said electric warning signal, it immediately interrupts the electric fed to said channel (5, 6) formed by said two terminals (3, 4) before the latter reach said second position C of physical separation between them.

Claims 10 – 17 (canceled)